Graduate Course 9560, 2017_18
Human Anatomy & Embryology

Course Director: Dr. M Johnson, MSB 487, ext 86756, mij@uwo.ca

Course Description:
A study of human anatomy, embryology and imaging for MSc Clinical Anatomy, MSc Pathology Assistant & PhD students. The course consists of dissection and tutorials in gross anatomy, as well as tutorials in embryology. Students should expect to spend at least 6 hours/wk in the lab and 2-4 hr/wk in tutorials.

Course Objectives:
By the end of the 9560 course the student will be able to:
1. Describe the normal gross and developmental anatomy of all the major body regions and systems according to their identification on cadavers, functional explanations and clinical relevance.
2. Apply their anatomical knowledge to develop a diagnostic reasoning approach to basic clinical and pathological scenarios.
3. Create a virtual patient case study by integrating cadaveric findings with independent research.
4. Develop stronger problem-solving, communication and collaboration skills through classroom discussions, group work and verbal assessments.

Instructors and Regions:
Dr. Kat Willmore: Head and neck – September 11 – November 13
Dr. Charles Rice: Upper limb – November 15-December 11 and lower limb – January 8 – January 29 **
Dr. Peter Merrifield: early embryology – January 31 - February 1
Dr. Stephen Renaud: Thorax – February 5 – March 8
Dr. Johnson: Abdomen, Pelvis & Perineum – March 12- April 30

Timetable:
*Lecture/tutorial (M447) – Mon 3:30-5:30pm and Wed 12:30-2:30pm; ** Lower limb lectures will go from 1:30-3:30 on Wednesdays
Labs (M482) - Wed and 9:00-11:30am and Thurs 9:00-11:30am

Please refer to the course web site for a detailed schedule of lectures and labs

*Some of these sessions may be used for labs.

Course weight: 2.0
Texbook requirements: (or equivalent)


2. An atlas of your choice. Atlases are available in the lab. Dissectors will be required and are also supplied in the lab.


Evaluation of Student Performance:
Assessment is by formative (not for marks) lab quizzes, and summative (for marks) end of block oral exams and on-line quizzes/assignments. Attendance is not taken but students must maintain an overall 80% in the course (see student handbook http://www.uwo.ca/anatomy/grad/studenthandbook_2010november18.pdf) and all components of the course must be completed to pass.

End of block oral exams – 19.5% each: Tentative dates
Head & Neck., ~Nov 13th
Back and Limbs, ~ Jan 29th
Thorax ~ March 8th
Abdomen & Pelvis ~April 30th

Assignments/quizzes:
Early Embryology 2%
* Clinical Case development 20% - presentations in April

*Case-Based Learning:
Students will work in their dissection groups (~3/group) to research a clinical case based on what they find in their cadaver. The cases will be developed by each group and put into a web-based virtual patient software so everyone may have access to the cases and work through the various diagnosis at the end of the course. Each group will develop their own assessment rubric, which should be vetted by the course coordinator before implementation. Each group will submit their virtual patient module for assessment (or present their virtual patient to the entire class during a class session in April, time permitting). See page 7 for more details.

Policy on Accommodation for Medical Illness
(https://studentservices.uwo.ca/secure/index.cfm).
Students are expected to attend all classes and laboratory sessions. If a student must be absent from regularly scheduled class times he/she is
expected to contact the course instructor or coordinator and excuse himself/herself from that class or lab. A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services.

The form can be found at: 
https://studentservices.uwo.ca/secure/medical_document.pdf

- Documentation for medical or non-medical reasons, according to the Policy on Accommodation for Medical Illness is required for absences from tests or exams. Documentation is not required for work worth less than 10% of the total course grade. When documentation is required for missing an exam or test, such documentation must be submitted by the student directly to the instructor.
- The date and nature of a make-up test/exam will be determined by the instructor, in consultation with the student. Generally, students who miss a lab test will be given a verbal 1:1 lab test. Written tests/exam will be made up by a written test/exam.

DISSECTING ROOM REGULATIONS

1. The following are mandatory in the lab:
   i. Lab coat - should be reserved for use in the dissecting room only. It must be reasonably clean at all times;
   ii. Disposable gloves for handling cadaveric material;
   iii. Safety glasses - if you wear prescription glasses, these will be sufficient.
   iv. Close-toed footwear - sandals must not be worn.

2. For health reasons, NO FOOD OR DRINKS can be taken into the dissecting room.

3. CADAVERIC MATERIAL MUST NOT BE REMOVED FROM THE DISSECTING ROOM.

4. You are not permitted to take anyone into the dissecting room without the special permission of the course instructor, or the Chair of the Department of Anatomy & Cell Biology.
5. Cameras are **not** allowed in the dissecting room.

6. Report any injuries acquired in the lab to a faculty or a staff member as soon as possible. First aid materials are available.

7. Handle specimens and models with care. When not in use, please ensure that specimens are covered up or placed in their correct containers.

**What it Means to Work with Cadaveric Specimens**

During the year you will have the privilege of working with cadaveric specimens. **You must treat them with respect at all times.**

Understandably, many students feel uneasy about the prospect of working with cadaveric material. In order to prepare you for the experience, there will be a short, multi-faith memorial service, held in the lab and run by the University chaplains. It is a time to thank the donors and to reflect on what their gift means to your education. For some students, this will be their first experience of death and dying and many have found the service very useful in coming to terms with mortality and dealing with it.

At the end of the year, there will be a second memorial service to which families and friends of the donors are invited. This is very much a student-centred service, with readings and personal reflections from students about what the gifts of the donors have meant to them. Medical, dental and health sciences students take part in the service and it has proven to be an incredibly moving and meaningful experience for both the families and the students.

**Statement of Academic Offences:**

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf.

Senate regulations **require ALL** instructors to include the following statements on plagiarism, cheating and proficiency in English in the course outline:

“Students must write their essays and assignments in their own words. Whenever students take an idea or passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).”
9560 Case-Based Learning: Case Development Assignment

Due in April 2017.

Objectives: As you work with each problem you will:

1. Develop your diagnostic reasoning and analytical problem-solving skills.
2. Determine what knowledge you need to acquire to understand the problem, and others like it.
3. Discover the best resources for acquiring that information.
4. Carry out your own personalized study using a wide range of resources.
5. Apply the information you have learned back to the problem.
6. Integrate this newly acquired knowledge with your existing understanding into an interactive communication platform.

Phase 1. Your group will define a clinical condition observed in your cadaver or related to any family history you have obtained on your donor. First, your group will gather information and list it under a heading entitled: "What do we already know?" In this phase, you will entertain the problem in light of the knowledge that you already have from your own dissection experience and any family history. This analysis requires discussion and agreement on sorting out which condition or aspects of the disease are worthy of further investigation. This initial analysis should yield a problem statement that serves as a starting point for the investigation.

Phase 2. "What do we need to know (to create a differential diagnosis)?" Here you will list questions or learning issues that must be answered to address missing knowledge, or to shed light on the diagnosis. This activity is like a "brainstorming" phase with discussion of evaluation and explanations or solutions. You will be gathering information from the classroom, resource readings, texts, library sources, videos, and from external experts on the subject. As new information is acquired, your group will need to meet to analyze and evaluate it for its reliability and usefulness in applying it to the problem.

Phase 3. "What should we do?". It is in this phase that your group will identify and allocate learning tasks, develop storyboard plans to discover needed information. At this point you should have all the relevant information to create your case study. The case write up should begin with:
- A description of the presentation of the patient in the (OR/ER/ward/Clinic/family doc office/by paramedics etc)
• Statement of your learning objective(s) for the case

The case content should address the following:

1. family history - questions and answers
2. patient history - questions and answers
3. physical exam - what done and findings
4. lab tests to order - plus interpretation of results
5. imaging series to order - plus interpretation
6. expanded differential diagnosis
7. treatment options with rationale
8. indication of i) critical actions and ii) unnecessary actions
9. management with rationale
10. family and/or community support - type of involvement
11. approximate costs and time associated with each (if possible)

Phase 4. Implementation of case

Your group will work together using the custom built virtual patient software (by Santiago) to create a web-based clinical case activity. All cases will be uploaded through OWL for review. Instructions and a training session by Santiago will be arranged and further support will be given when all groups are ready to populate the software template.

Assessment of Virtual Patient

In general, and at minimum, students will be assessed in three broad areas:

1. **Applied Competence.** Demonstrate the ability to use organizational skills and learning concepts to identify and analyze the variables that can influence the outcome of a given clinical case.
2. **Critical Thinking, Problem-Solving and Communicative Competence.** Accurately and competently use evidence-based science to identify, interpret and solve clinical problems, and effectively communicating your analyses to others.

3. **Collaborative and Leadership Competence.** Collaborates as a member of a project team, taking the initiative in identifying and solving problems or pursuing opportunities for learning and improvement within your group.

In a nut-shell, this translates to your case being assessed on:

1. Organization and presentation
2. Diagnosis and Content accuracy
3. Communication of the key features to the reader